

LISTING OF THE CLAIMS

1-11. (canceled)

12. (currently amended) In a system that includes client computer devices connected to a printing device via a network, a method for managing a print job without use of a print server, the method comprising:

initiating a print job at a first client computer device, wherein the first client computer device is one of the client computer devices connected to the printing device via the network, and wherein no print server is connected to the network;

broadcasting an intent to send the print job from the first client computer device to the printing device, wherein the intent is broadcast from the first client computer device to a plurality of the client computer devices connected to the printing device via the network without including the print job in the broadcast intent;

distributively managing the print job and a prioritization of the print job until the first client computer device sends the print job to the printing device, wherein the distributively managing the print job and a prioritization of the print job comprises:

determining whether a response to the broadcast intent is received by the first client computer device from one or more of the plurality of the client computer devices; and

sending the print job from the first client computer device to the printing device only after an event selected from the following events occurs:

receiving no response to the broadcast intent at the first client computer device; and

receiving a response to the broadcast intent at the first client computer device from at least one of the plurality of the client computer devices, followed by receiving a permission to send the print job to the printing device at the first client computer device from the at least one of the plurality of the client computer devices.

13. (previously presented) A method as recited in claim 12, wherein said initiating a print job includes determining whether to perform cluster printing, and wherein if the cluster printing is to be performed, utilizing the printing device in performing the cluster printing.

14. (previously presented) A method as recited in claim 12, wherein said initiating a print job includes determining whether to perform intelligent routing, and wherein if the intelligent routing is to be performed, utilizing the printing device in performing the intelligent routing.

15. (previously presented) A method as recited in claim 12, wherein said distributively managing the print job comprises:

if a response to the broadcast intent is received, determining whether the response includes a conflict for sending the print job to the printing device, and wherein if the conflict is included in the response, resolving the conflict.

16. (previously presented) A method as recited in claim 12, wherein said distributively managing the print job comprises:

if a response to the broadcast intent is received, determining whether the response includes an objection to sending the print job to the printing device, and wherein if the objection is included in the response, resolving the objection.

17. (previously presented) A method as recited in claim 12, wherein said distributively managing the print job comprises:

if no response to the broadcast intent is received, using the first client computer device to manage the print job..

18-19. (canceled)

20. (previously presented) A method as recited in claim 12, wherein the print job is a first print job, and wherein said distributively managing the print job further comprises:

utilizing a second broadcast of an intent to send a second print job to the printing device to determine which of the client computer devices shall be used to manage the second print job; and

ordering the print jobs on a print queue containing information about the first and second print jobs but not the first and second print jobs themselves.

21. (previously presented) A method as recited in claim 12, wherein said distributively managing the print job is enabled by at least one of:

- (i) a print driver;
- (ii) a print assistant; and
- (iii) a spooler.

22-23. (canceled)

24. (previously presented) A method as recited in claim 20, wherein said sending the first print job from the first client computer device to the printing device further includes setting a status of the print job on the print queue.

25. (previously presented) A method as recited in claim 24, wherein said sending the first print job from the first client computer device to the printing device further includes removing a remote entry of the first print job from a remote print queue containing a copy of said information about the first and second print jobs but not the first and second print jobs themselves.

26. (previously presented) A method as recited in claim 25, wherein if print data corresponding to the print job is in a printer ready format, the sending the first print job from the first client computer device to the printing device further includes using a print processor of the first client computer device to send the print data to a port manager of the first client computer device.

27. (previously presented) A method as recited in claim 25, wherein if print data corresponding to the print job is in a journaled format, the step for sending the first print job from the first client computer device to the printing device further includes:

using a print processor of the first client computer device to play back the journaled data to a printer driver of the first client computer device;  
spooling the print data to a spooler of the first client computer device; and  
sending the print data to a port manager of the first client computer device.

28. (currently amended) A computer program product for implementing within a networked computer system a method for managing a print job without any use of a print server, the computer program product comprising:

computer readable medium for providing computer program code means utilized to implement the method, wherein the computer program code means is comprised of executable code for implementing the steps of:

initiating a print job at a first client computer device, wherein the first client computer device is one of a plurality of client computer devices;

broadcasting an intent to send the print job from the first client computer device to the printing device, wherein the intent is broadcast from the first client computer device to a plurality of the client computer devices connected to the printing device via the network without including the print job in the broadcast intent;

distributively managing the print job until the first client computer device sends the print job to a printing device, wherein the distributively managing the print job comprises:

determining whether a response to the broadcast intent is received by the first client computer device from one or more of the plurality of the client computer devices; and

sending the print job from the first client computer device to the printing device only after an event selected from the following events occurs:

receiving no response to the broadcast intent at the first client computer device; and

receiving a response to the broadcast intent at the first client computer device from at least one of the plurality of the client computer devices, followed by receiving a permission to send the print job to the printing device at the first client computer device from the at least one of the plurality of the client computer devices.

29. (previously presented) A computer program product as recited in claim 28, wherein said distributively managing the print job further comprises:

when a response to the broadcast intent is received by the first client computer device, performing the steps of:

determining whether the response includes a conflict from the one or more of the plurality of client computer devices to send the print job to the printing device, wherein if the conflict is included in the response, resolving the conflict; and

determining whether the response includes an objection from the one or more of the plurality of client computer devices to send the print job to the printing device, wherein if the objection is included in the response, resolving the objection; and

if no response to the broadcast intent is received, using the first client computer device to manage the print job.

30-32. (canceled)

33. (previously presented) A computer program product as recited in claim 28, wherein a broadcast message is used to perform at least one of:

- (i) registering one of the plurality of client computer devices for distributed management of print jobs;
- (ii) indicating an intent to despool the print job;
- (iii) setting a status of a despooled print job;
- (iv) obtaining a status of a despooled print job;

- (v) setting a status of the printing device;
- (vi) obtaining a status of the printing device;
- (vii) requesting print queue information; and
- (viii) requesting a print queue change.

34. (previously presented) A method as recited in claim 12, wherein a broadcast is used to register a client computer device for distributed management of print jobs.

35. (previously presented) A method as recited in claim 12, wherein a broadcast is used to indicate an intent to despool the print job.

36. (previously presented) A method as recited in claim 12, wherein a broadcast is used to set or check a status of a despoiled print job.

37. (previously presented) A method as recited in claim 12, wherein a broadcast is used to set or get a status of the printing device.

38. (previously presented) A method as recited in claim 12, wherein a broadcast is used to request print queue information.

39. (previously presented) A method as recited in claim 12, wherein a broadcast is used to request a print queue change.



40. (previously presented) A networked system that provides for distributive management of a print job without the use of a print server, the system comprising:

- a network;

- a printing device connected to the network;

- a plurality of client computer devices connected to the network and configured to distributively manage the printing of print jobs to the printing device through a series of broadcast communications between the client computer devices, wherein each of the individual client computer device of the plurality of client computer devices comprises:

- a local print queue local to the individual client computer device corresponding to the printing device and containing print jobs generated by the individual client computer device; and

- a system for distributively managing the sending of print jobs from the local print queues of the individual client computer devices to the printing device comprising:

- a broadcast intent, broadcast from a first client computer device to multiple of the plurality of client computer devices, to send a first print job from the first client computer device to the printing device, wherein the broadcast intent includes information about the print job but does not include the print job; and

- a response from a second client computer device indicating that the second client computer device is managing sending of print jobs to the printing device, wherein the response includes one of:

an indication that the second client computer device has no objection to the first client computer device sending the first print job to the printing device;

an objection to and denial of the immediate sending of the first print job to the printing device by the first client computer device; and

an indication that a conflict must be resolved in order to permit the first client computer device to send the first print job to the printing device.

41. (previously presented) A system as recited in claim 40, wherein the plurality of client computer devices are further configured to assume management of the sending of print jobs to the printing device when no response is received to broadcasts of intent to send print jobs to the printing device.

42. (previously presented) A system as recited in claim 40, wherein the second client computer device is configured to ensure that when the response includes an objection, the objection is resolved before the first client computer device is permitted to send the first print job to the printing device.

43. (previously presented) A system as recited in claim 40, wherein the second client computer device is configured to ensure that when the response includes a conflict, the conflict is resolved before the first client computer device is permitted to send the first print job to the printing device.

44. (previously presented) A system as recited in claim 40, wherein the local print queue of a managing client computer device contains entries corresponding to, but not containing, print jobs of other client computer devices.

45. (previously presented) A system as recited in claim 40, wherein the local print queue of the second client computer device includes an entry for a second print job to be printed on the printing device and the second client computer device is configured to manage the printing of the first and second print jobs by:

- evaluating what type of response should be sent to the broadcast intent for the first print job; and

- sending a response to the first client computer device, the response selected from the group of:

- an indication of no objection when the second print job is of a lower priority than the first print job;

- an objection and denial when the second print job is of a higher priority than the first print job;

- an objection and denial when the second print job is currently being sent to the printing device; and

- an indication of a conflict when the second print job and the first print job have equal priority.

46. (previously presented) A system as recited in claim 40, wherein the first client computer device is configured to send the first print job to the printing device when no response to the broadcast intent is received, when a response indicating no objection is received, when a

response indicating an objection is received and the objection is resolved, and when a response indicating a conflict is received and the conflict is resolved.

47. (previously presented) A system as recited in claim 40, wherein the system for distributively managing the sending of print jobs further comprises a broadcast message requesting print queue information.

48. (previously presented) A system as recited in claim 40, wherein the system for distributively managing the sending of print jobs further comprises a broadcast message requesting a print queue change.

49. (previously presented) A system as recited in claim 40, wherein the system for distributively managing the sending of print jobs further comprises a broadcast message requesting administrative authority.